



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/641,679	08/18/2000	Joong-Kyu Choi	P-107	7088

7590 09/11/2003
Fleshner & Kim, LLP
14500 Avion Parkway
Suite 125
Chantilly, VA 20151

EXAMINER

LIU, SHUWANG

ART UNIT PAPER NUMBER

2634

DATE MAILED: 09/11/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/641,679

Applicant(s)

CHOI, JOONG-KYU

Examiner

Shuwang Liu

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-17 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because the fax copy is illegible on many pages.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

Claim Objections

2. Claims 3-6, 13-19 objected to because of the following informalities:
 - (1) In claims 3, 4 and 15, line 1, change "E-BER" to - -Excessive Bit Error Ratio (E-BER)- -;
 - (2) In claim 13, line 2, insert - -E-BER- - after "Ratio"; and
 - (3) In claim 17, line 3, change "E-BER" to - -Excessive Bit Error Ratio (E-BER)- -.Furthermore, it is unclear what the "repairing duration time" in line 4 means. Appropriate correction is required.

Art Unit: 2634

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bullock et al. (US 5,764,651).

As shown in figures 3 and 5-6, Bullock et al. discloses:

A method for measuring the bit error ratio of a transmission system,
comprising:

initializing a plurality of buffers (figure 6, column 6, lines 48-54);

storing a number of bit errors generated in a transmission during a period

of time T in the plurality of buffers (column 6, lines 1-39, table 2 and column 9, lines 14-15);

monitoring a portion of buffers among the plurality of buffers for a dynamically changing time period less than T (column 4, line 45-column 5, line 25); and determining an average number of bit errors in the monitored portion of buffers (sliding window algorithm, abstract and column 4, lines 45-67).

5. Claims 1-7, 10-17 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Burke et al. (US 6,310,911).

As shown in figures 1 and 2, Burke et al. discloses:

A method for measuring the bit error ratio of a transmission system, comprising:

initializing a plurality of buffers (a circuit queue, column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29);

storing a number of bit errors generated in a transmission during a period of time T in the plurality of buffers (column 7, lines 52-62);

monitoring a portion of buffers among the plurality of buffers for a dynamically changing time period less than T (column 20, lines 64-67); and

determining an average number of bit errors in the monitored portion of buffers (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(2) regarding claim 2:

wherein the plurality of buffers are sequentially stored starting from a first buffer, and the buffers are stored again starting from the first buffer when the last buffer is stored (column 7, lines 57-column 8, line 5).

(3) regarding claim 3:

wherein an E-BER alarm is generated if a current state is not an E-BER alarm generation state and the total number of bit errors of the monitored portion of buffers is more than a prescribed value (column 3, lines 16-60).

(4) regarding claim 4:

wherein an E-BER alarm is cleared if a current state is an E-BER alarm generation state and the total number of bit errors of the monitored portion of buffers is less than a prescribed value (column 3, lines 16-60).

(5) regarding claims 5 and 6:

wherein the prescribed value is an average number of error generated during the time period T (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(6) regarding claim 7:

setting and initializing a plurality of buffer, which are capable of accumulating a number of bit errors in a signal of the transmission system at a prescribed interval of time T (a circuit queue, column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29);

storing the number of bit errors generated during the period of time T (column 4, lines 1-29);

determining whether an Excessive Bit Error Ratio (E-BER) alarm has been generated (column 3, lines 10-15);

selecting and scooping a set of the plurality of buffers from a current buffer to one of a first and second prescribed buffer (column 3, lines 24-33 and column 4, lines 1-29);

determining whether the E-BER alarm should be generated based on the average number of bit errors in the scoped buffers to the first prescribed buffer after an elapse of the period of time T, if the E-BER alarm has not been previously generated (column 3, lines 16-60); and

determining whether the E-BER alarm should be cleared based on the average number of bit errors in the scoped buffers from the current buffer back to the second prescribed buffer after an elapse of the period of time T, if the E-BER alarm has previously been generated (column 3, lines 16-60).

(7) regarding claim 10:

An apparatus for measuring the bit error ratio of a transmission system, comprising:

a first error detector (1) to detect a bit error generated in a transmission line;

an error storing unit (memory or a circular queue not shown in figures), to sequentially store a number of bit errors detected in the first error detector during the period of time T (column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29); a

plurality of buffers (memory or a circular queue not shown in figures) to store the number of bit errors at an interval of time T (column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29); and

a second error detector (2 and 3) to monitor at least a portion of buffers of the plurality of buffers, and determine an average number of bit errors within the portion of buffers (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(8) regarding claim 11:

wherein the error storing unit sequentially stores the number of bit errors starting from a first buffer, and the buffers are scored again starting from the first buffer when the last buffer is stored (column 7, lines 57-column 8, line 5).

(9) regarding claim 12:

wherein the portion of buffers is less than the plurality of buffers (column 4, lines 1-29).

(10) regarding claim 13:

wherein the second error detector is an Excessive Bit Error ratio alarm detector (column 3, line 1-60).

(11) regarding claim 14:

wherein the number of buffers in the portion of buffers is dynamically changeable (column 10, lines 20-56).

(12) regarding claim 15:

wherein an E-BER alarm is generated if the average number of bit errors of the sliding window exceeds a prescribed value (column 3, line 1-60).

(13) regarding claim 16:

wherein the prescribed value is an average number of bit errors detected by the first error detector during the time period T (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(14) regarding claim 17:

A method for measuring the bit error ratio of a transmission system, comprising:

setting an E-BER error generation duration time for judging whether or not an excessive error is instantaneously generated, setting an E-BFR error repairing duration time for judging whether or not the F-BER alarm is cleared when an error is intermittently generated after E-BER Alarm is generated (column 3, lines 1-60);

calculating an average number of bit errors of a sliding window buffer corresponding to the E-BER error generation duration time, judging whether an error is instantaneously generated according to an average number of bit errors, and generating an E-BER alarm if an excessive error is instantaneously generated (sliding window algorithm, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).; and

calculating the average number of bit errors of the sliding window buffer corresponding to the E-BER error repairing duration time after the generation of the E-BER alarm, judging whether or not an error is intermittently generated according to the average number of bit errors, and clearing the E-BER alarm when the error is repaired

(sliding window algorithm, column 3, lines 1-60, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(15) regarding claim 20:

A method of measuring the bit error ratio in a transmission system, comprising:

initializing a plurality of buffers (a circuit queue, column 7, lines 52-62, column 5 line 64-column 6, line 9 and column 3, line 61-column 4, line 29);

accumulating a number of bit errors in a transmission signal during a first prescribed time interval (column 4, lines 64-67);

determining an active or inactive state of an excessive bit error ratio (E-BFR) alarm (column 3, 1-60); and

performing one of generating and clearing the E-BER alarm based on the average number of errors in a dynamically changing segment of the plurality of buffers (sliding window algorithm, column 3, lines 1-60, column 10, lines 24-56, column 12, lines 19-23 and column 3, lines 34-52).

(16) regarding claim 21:

wherein the E-BER alarm is generated when the E-BER alarm is not active and an average number of bit errors in a selected number of buffers during the prescribed period exceeds the total number of bit errors during a second prescribed time period (column 3, 1-60).

(17) regarding claim 22:

wherein the E-BER alarm is cleared when the E-BER alarm is active and an average number of bit errors in a selected number of buffers during the prescribed

period does not exceed the total number of hit errors during a second prescribed time period (column 3, lines 1-60).

Allowable Subject Matter

6. Claims 8, 9, 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Art Unit: 2634

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
Art Unit 2634

September 5, 2003